

CLAIMS

What is claimed is:

1. A method of determining whether a stimulus is capable of activating a candidate cis-
5 acting regulatory element in an immunocyte, wherein said cis-acting regulatory element is regulated by at least one transcription factor or enhancer, and wherein said stimulus is known to modulate expression of a signaling pathway, said method comprising the steps of:
 - 10 (a) transfecting said immunocyte with a recombinant adenovirus, said recombinant adenovirus comprising a reporter gene operatively linked to said candidate cis-acting regulatory element;
 - (b) measuring a base level of reporter gene activity;
 - (c) applying said stimulus to said immunocyte; and
 - (d) measuring reporter gene activity in response to said stimulus.
- 15 2. The method of Claim 1 wherein said stimulus comprises modulating expression of a regulatory protein and said applying step (c) comprises modulating the expression of said regulatory protein.
- 20 3. The method of Claim 2 further comprising the step of co-transfecting said immunocyte with an expression system for said regulatory protein.
4. The method of Claim 1 wherein said applying step (c) comprises introducing a candidate regulatory compound.
- 25 5. The method of Claim 1 wherein said reporter gene is selected from the group consisting of: luciferase, green fluorescent protein ("GFP"), β -galactosidase ("GAL"), chloramphenicol acetyltransferase ("CAT").
- 30 6. The method of Claim 1 wherein said reporter gene is a suppressor gene.

7. The method of Claim 6 wherein said suppressor gene is I κ B δ .
8. The method of Claim 1 wherein said cis-acting regulatory element is modulated by regulatory proteins related to inflammation.
- 5 9. The method of Claim 1 wherein said cis-acting regulatory element is selected from the group consisting of: AP-1, CRE, ISRE, NFAT, NF κ B, and SRE.
- 10 10. The method of Claim 1 wherein said immunocyte is selected from the group consisting of: macrophage, CD4⁺ T cell, and immature dendritic cell.
11. A method of inhibiting expression of a signaling pathway in an immunocyte comprising the steps of:
- 15 (a) transfecting said immunocyte with a recombinant adenovirus, wherein said recombinant adenovirus comprises a suppressor gene operatively linked to a cis-acting regulatory element, wherein said cis-acting regulatory element belongs to said signaling pathway; and
- (b) inducing expression of said suppressor gene.
- 20 12. The method of Claim 11 wherein said signaling pathway is the NF κ B signaling pathway.
13. The method of Claim 11 wherein said suppressor gene is I κ B δ .
14. The method of Claim 11 wherein said immunocyte is selected from the group consisting of: macrophage, CD4⁺ T cell, and immature dendritic cell.
- 25